

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003587**Date Inspected:** 21-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

OBG Assembly Bay

Segment 4AE – The Quality Assurance Inspector observed ZPMC performing in process welding of Longitudinal Diaphragm Plate LD-008-004 to Floor Beam FB-002-003. The welder was utilizing the shielded metal arc welding process to produce the complete joint penetration weld in the overhead position.

Segment 4BE – The Quality Assurance Inspector observed ZPMC in the process of fitting up Longitudinal Diaphragm Plate LD-003-004. The Quality Assurance Inspector observed numerous weld access holes on side panels failing to be smooth and uniform as required by AWS D1.5 2002. Below is a digital photograph illustrating the discontinuity.

Segment 3BE – No ZPMC personnel was observed working on the segment.

Segment 3AE – ZPMC was observed drilling 24 mm holes in the top flanges of T stiffeners on Side Panel SP-076-001 in preparation for installing high strength bolts.

Segment 5CW – No ZPMC personnel was observed working on the segment.

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Segment 5BW – No ZPMC personnel was observed working on the segment.

Segment 5AW – No ZPMC personnel was observed working on the segment.

Segment 4BW – The Quality Assurance Inspector witnessed a ZPMC welding operator performing in process tack welding of Longitudinal Diaphragm Plate LD-009-002 to Bottom Panel BP-020-001. The welder was utilizing the shielded metal arc welding process to produce the tack welds in the horizontal position.

Segment 3AW – The Quality Assurance Inspector observed ZPMC performing in process welding of Floor Beam FL1 to Floor Beam FL3. Quality Control Inspector C.H. Chang was monitoring the welder. The welder was using the flux cored arc welding process to produce the complete joint penetration weld in the vertical position. The Quality Assurance Inspector recorded the welding parameters at the welder's station and found the parameters to meet the minimum requirements of the posted welding procedure specification. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

Segment 3BW – No ZPMC personnel was observed working on the segment.

OBG Sub Assembly Bay 1

ABF Representative Kit Man Li informed QA that ZPMC performed magnetic particle testing to the tack welds on Deck Panels DP-280-001 and DP-334-001. ZPMC marked 47 out of 204 tack welds for repair on DP-280-001. On Deck Panel DP-334-001 there was no evidence that ZPMC performed the magnetic particle testing. There were no magnetic particles on the part and no tacks were marked for repair. ZPMC relayed that the testing was completed the previous shift. Below is a digital photograph illustrating one of the ground tack welds.

Deck Panel Production Welding

The Quality Assurance Inspector witnessed the welding of the production panels DP-280-001 (4 rib) and DP-334-001. The welding of the deck panel was performed on gantry 2 to produce the partial joint penetration groove weld. Upon completion of the gas metal arc welding (GMAW) root pass ZPMC performed the subsequent submerged arc welding (SAW) pass. The parameters appeared to be within welding procedure specification for dual process WPS-B-T-2342-U1 (U-rib)-3.



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Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco(707) 552 7715, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg
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Quality Assurance Inspector

Reviewed By:	Lanz,Joe
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QA Reviewer
